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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,426	07/29/2003	Kozo Saito	22562-7	6018
24256	7590	12/13/2005		
DINSMORE & SHOHL, LLP 1900 CHEMED CENTER 255 EAST FIFTH STREET CINCINNATI, OH 45202			EXAMINER GAGLIARDI, ALBERT J	
			ART UNIT	PAPER NUMBER
			2884	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/629,426	Applicant(s) SAITO ET AL.	
	Examiner Albert J. Gagliardi	Art Unit 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 and 20-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/05, 5/04, 1/04(2)</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims Group II, Species 3 (claims 15-19) in the reply filed on 10 November 2005 is acknowledged. The traversal is on the ground(s) that:

- 1) the groupings are related, and that the same general field of search is required;
- 2) there is no burden to examine multiple inventions;
- 3) the inventions are not independent and distinct;
- 4) a separate classification for species is not shown; and
- 5) restriction is a burden on the applicant.

This is not found persuasive.

2. Regarding the groupings being related, it is noted that under MPEP 808.02, restriction between related inventions is considered proper, assuming the other conditions are met, by showing a separate classification in the art, which has indeed been shown. In regard to applicant's argument that the groups *need* not be classified differently, the examiner notes that such argument is irrelevant because classification is not necessarily made on the basis of *need*, but rather on the basis of where an invention should *best* be classified. In this case the examiner has chosen sub-classes wherein, in his experienced opinion, the inventions should *best* be classified. Regardless of the particular classification, the examiner also notes that in class 250 alone (where the invention is currently classified), there are at least 40 subclasses directed to infrared responsive inventions (subclasses 338.1 to 353) with at least ten of those subclasses directed specifically to infrared responsive methods; such breakout distinctly showing that there

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is a clear recognition in the art as separate subject matter for inventive effort between infrared responsive apparatus and infrared responsive methods.

3. Regarding the burden of examining separate inventions, such burden is prima facie shown by the separate classification.

4. Regarding applicant's argument that the inventions are not independent and distinct, the examiner notes that the criteria are independent or distinct (MPEP 802.01, 806, 816). In this case, even though the claims may not be independent (i.e., they are related as apparatus and method) they meet the criteria for distinctness under MPEP 806.05(e) as detailed in the previous action because the different groups include at least some specific and, presumably, patently distinct limitations that are not found in the other group.

5. Regarding applicant's argument that the criteria for restriction between species is not meet under MPEP 808.02, the examiner notes that the criteria for restriction among species in not governed by MPEP 808.02, but is governed under MPEP 808.01, which states, among other things, that a separate status in the art or separate classification is not a necessary element for restriction among species.

6. Regarding applicant's argument that restriction among the multiple groups and species would cause a burden on applicant by requiring the filing of multiple applications, the examiner notes that such requirement, in and of itself, is not a basis for overcoming a restriction (the statutory basis is one invention per application); but regardless of any burden, the requirement for restriction between groups could have been avoided by filing method and apparatus claims that do not include specific and distinct limitations unique to each group; and the restriction

among species might be avoided by either an admission that the multiple species are not patently distinct, or by including them under an allowed generic claim.

7. The requirement is still deemed proper and is therefore made FINAL.

8. Claims 1-14 and 20-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention or species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10 November 2005.

Information Disclosure Statement

9. The information disclosure statement filed 1 August 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The examiner notes that the references entitled "Theory and Practice of Infrared Technology for Nondestructive Testing" to Maldague is not completely legible, and the reference entitled "Thermal Wave Imaging of Aircraft Structures" to Favro *et al.* does not include the recited pages.

The information disclosure statement filed 1 August 2005 also fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being

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submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement.

The examiner notes that the IDS is not complying because each page of the IDS does not include at least the application number and the appropriate heading. As a courtesy to applicant the required information has been added and the listed references have been considered except as noted above.

10. The information disclosure statement filed 10 May 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

11. The information disclosure statement filed 13 January 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

12. The information disclosure statement filed 12 January 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

The information disclosure statement filed 12 January 2004 also fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not identify the reference by appropriate page numbers. The examiner notes that the reference entitled "Theory and Practice of Infrared Technology for Nondestructive Testing" to Maldague does not identify any appropriate pages. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

13. Where the IDS citations are submitted but not described, the examiner is only responsible for cursorily reviewing the references. The initials of the examiner on the PTO-1449 indicate only that degree of review unless the reference is either applied against the claims, or discussed by the examiner as pertinent art of interest, in a subsequent office action. See Guidelines for Reexamination of Cases in View of *In re Portola Packaging, Inc.*, 110 F.3d 786, 42 USPQ2d 1295 (Fed. Cir. 1997), 64 FR at 15347, 1223 Off. Gaz. Pat. Office at 125 (response to comment 6). Consideration by the examiner of the information submitted in an IDS means that the examiner will consider the documents in the same manner as other documents in Office search files are considered by the examiner while conducting a search of the prior art in a proper field of search. The initials of the examiner placed adjacent to the citations on the PTO-1449 or PTO/SB/08A and 08B or its equivalent mean that the information has been considered by the examiner to the extent noted above. MPEP § 609 (Eighth Edition, August 2001).

The examiner notes that due to the unusually large number of references cited, and the absence of any description of the relevance of the references, it should be assumed that only the most cursory review of the cited documents consistent with these guidelines has been performed. If applicant is aware of any information that might be of particular relevance, it should be pointed out in order to insure a higher degree consideration.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy *et al.* (US 2002/0018510 A1) in view of Kenway (US 6,346,704 B2).

Regarding claim 15, *Murphy* discloses a method for detecting defects in coatings comprising the steps of: applying a plurality of coatings to a surface (§ 0057); manipulating the temperature of said surface and coatings (§ 0059); measuring the change of temperature in said

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manipulated surface and coatings (§ 0059); and comparing said measured change of temperature in said manipulated surface and coatings to expected change of temperature for a defect free surface (Fig. 8, § 0059).

Regarding the steps of assigning a thermal effusivity value to each of said coatings; and configuring an expected change of temperature for said surface coatings, it is noted that while *Murphy* relies on a defect free sample for comparison, it is well known in the art and considered as a functionally equivalent alternative design choice to utilize a thermodynamically modeled sample for comparison instead of a reference sample (see for example *Kenway* at col. 2, lines 39-55; col. 4, lines 18-31), wherein the model is determined by assigning various thermodynamic parameters to the object; and configuring an expected change of temperature (col. 2, lines 39-55; col. 4, lines 18-31). As such it would have been obvious design choice within the skill of a person of ordinary skill in the art to modify the method disclosed by *Murphy* so as to compare the measured change of temperature to a modeled sample in view of the well known functionally equivalent arrangements as suggested by *Kenway*.

Regarding the particular thermodynamic parameters as including thermal effusivity, *Murphy* discloses that in describing a model of a layered structure, it is necessary to include thermal effusivity values for each layer (§ 0019-0020). Therefore it would have been obvious to modify the method disclosed by *Murphy* to further include steps of assigning thermal effusivity values to each coating prior to configuring the expected change of temperature in view of the disclosure by *Murphy* that such values are necessary for producing a model of a layered structure.

Regarding claim 16, *Murphy* discloses that the method includes: measuring a thermal profile of a surface so as to create a thermal signature and comparing a measurement of the emitted radiation to the thermal signature (§ 0059). Regarding the steps of taking measurements of the emitted radiation from the surface and a first coating and the surface and a second coating, *Murphy* discloses that process control methods require analyzing the multilayer structure as each coating is applied during the manufacture with the emitted radiation being measured during or after each coating layer is applied (§ 0057-0058). As such it would have been obvious to include steps of taking first and second measurement of the first and second coating in view of the necessary process control requirements.

Regarding claims 17 and 19, *Murphy* discloses that the method includes steps of localizing the defects (see generally Fig. 9) and implementing a change in the operation of an application in order to address the one or more defects (§ 0057).

Regarding claim 18, although *Murphy* does not specifically disclose a step of correcting a defect, those skilled in the art appreciate that steps of repairing defects of products or well known and would be an obvious design choice depending on the particular product being inspected and the nature of the defect that is detected.

Conclusion

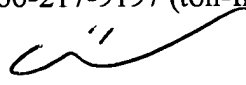
17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (571) 272-2436. The examiner can normally be reached on Monday thru Friday from 10 AM to 6 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Albert J. Gagliardi
Primary Examiner
Art Unit 2884

AJG